

LISTING OF CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A method for the reduction or treatment of radiation injury comprising the step of orally administering to a human prior to expected exposure to radiation, during exposure to radiation or after exposure to radiation, a composition which comprises an amount of one or more compounds selected from the group consisting of vitamin D₃, 1(S), 3(R)-dihydroxy-20(R)-(1-ethoxy-5-ethyl-5-hydroxy-2-heptyn-1-yl)-9, 10-seco-pregna-5(Z), 7(E), 10 (19)-triene, cholesterol, 7-dehydrocholesterol, 1, 25-dihydroxyvitamin D₃, and 25-hydroxycholecalciferol, calcitriol, and pharmaceutically acceptable salts thereof, which is effective, when administered orally, to inhibit at least one of cell differentiation and cell proliferation, and an effective amount of one or more antioxidants selected from the group consisting of α -lipoic acid, chlorophyllin, glutathione, and pharmaceutically acceptable salts of each of the foregoing antioxidants, and wherein the radiation injury results from one or more types of radiation selected from the group consisting of proton radiation, fluoroscopic radiation, alpha radiation, beta radiation and gamma radiation and the radiation injury is selected from radiation dermatitis, vomiting, bone marrow damage and intestinal damage.
2. (Previously presented) A method as claimed in claim 1, wherein the compound that inhibits at least one of cell differentiation and cell proliferation is vitamin D₃.
3. (Previously presented) A method as claimed in claim 1, wherein the one or more compounds that inhibit at least one of cell differentiation and cell proliferation are selected from the group consisting of: vitamin D₃, 1, 25-dihydroxyvitamin D₃, 1(S), 3(R)-dihydroxy-20(R)-(1-ethoxy-5-ethyl-5-hydroxy-2-heptyn-1-yl)-9, 10-seco-pregna-5(Z), 7(E), 10 (19)-triene, and pharmaceutically acceptable salts thereof.
4. (Previously presented) A method as claimed in claim 1, wherein the one or more antioxidants are selected from the group consisting of: α -lipoic acid, chlorophyllin, and pharmaceutically acceptable salts thereof.

5. (Previously presented) A method as claimed in claim 1, wherein the compound that inhibits at least one of cell differentiation and cell proliferation is vitamin D₃, and the antioxidant is α -lipoic acid and chlorophyllin.

6. (Canceled)

7. (Previously presented) A method as claimed in claim 1, wherein the composition further comprises at least one flavonoid or flavonoid derivative selected from the group consisting of: 1,2,3,6-tetra-o-gallyol- β -d-glucose; 2'-o-acetylacetoside; 3,3',4-tri-o-methyl-ellagic acid; 6,3',4'-trihydroxy-5,7,8-trimethoxyflavone; 6-hydroxy-luteolin; 6-hydroxykaempferol-3,6-dimethyl ether; 7-o-acetyl-8-epi-loganic acid; acacetin; acetoside; acetyl trisulfate quercetin; amentoflavone; apigenin; apiin; astragalin; avicularin; axillarin; baicalein; brazilin; brevifolin carboxylic acid; caryophyllene; chrysin-5,7-dihydroxyflavone; chrysoeriol; chrysosplenol; chrysosplenoside-a; chrysosplenoside-d; cosmosiin; δ -cadinene; dimethylmussaenoside; diacetylcirsimaritin; diosmetin; dosmetin; ellagic acid; ebinin; ethyl brevifolin carboxylate; flavocannibiside; flavosativaside; genistein; gossypetin-8-glucoside; haematoxylin; hesperidine; hispiduloside; hyperin; indole; iridine; isoliquiritigenin; isoliquiritin; isoquercitrin; jionoside; juglanin; kaempferol-3-rhamnoside; kaempferol-3-neohesperidoside; kolaviron; licuraside; linariin; linarin; lonicerin; luteolin; luteolin-7-glucoside; luteolin-7-glucoside; luteolin-7-glucuronide; macrocarpal-a; macrocarpal-b; macrocarpal-d; macrocarpal-g; maniflavone; methy scutellarein; naringenin; naringin; nelumboside; nepetin; nepetrin; nerolidol; oxyyanin-a; pectolinarigenin; pectolinarin; quercetagenin; quercetin; quercimertrin; quercitrin; quercitryl-2'' acetate; reynoutrin; rhamnetin; rhoifolin; rutin; scutellarein; sideritoflavone; sophoricoside; sorbarin; spiraeoside; trifolin; vitexin; and wogonin.

8. (Canceled)

9. (Original) A method as claimed in claim 7, wherein the flavonoids and flavonoid derivatives are selected from the group consisting of: quercetin, quercetrin, myricetin, kaempferol and myrecetrin.

10. (Previously presented) A method as claimed in claim 1, wherein the composition further comprises selenium.

11. (Original) A method as claimed in claim 1, wherein the composition further comprises one or more ingredients selected from the group consisting of organic germanium, Korean ginseng, an extract of Korean ginseng, American ginseng, an extract of American ginseng, Siberian ginseng and an extract of Siberian ginseng.

12. (Previously presented) A method as claimed in claim 1, wherein the composition further comprises one or more B-complex vitamins.

13. (Previously presented) A method as claimed in claim 1, wherein a ratio of the amount of the compound that inhibits at least one of cell differentiation and cell proliferation to the amount of antioxidant is from about 200 IU per gram of antioxidant to about 3 million IU per gram of antioxidant.

14. (Previously presented) A method as claimed in claim 1, wherein a ratio of the amount of the compound that inhibits at least one of cell differentiation and cell proliferation to the amount of antioxidant is from about 1800 IU per gram of antioxidant to about 1 million IU per gram of antioxidant.

15. (Previously presented) A method as claimed in claim 1, wherein a ratio of the amount of the compound that inhibits at least one of cell differentiation and cell proliferation to the amount of antioxidant is from about 5000 IU per gram of antioxidant to about 200,000 IU per gram of antioxidant.

16. (Previously presented) A method as claimed in claim 1 further comprising the step of applying to an area of skin before, during or after exposure to radiation, a topical composition which comprises an amount of one or more compounds that inhibit at least one of cell differentiation and cell proliferation which is effective, when administered topically in the topical composition, to inhibit at least one of cell differentiation and cell proliferation, and an

effective amount of one or more antioxidants, formulated in a pharmaceutically acceptable topical carrier for a topical composition.

17. (Previously presented) A method as claimed in claim 16, wherein the pharmaceutically acceptable topical carrier comprises a sufficient amount of at least one hydrophilic ointment base to form a topical composition.

18. (Previously presented) A method as claimed in claim 17, wherein the pharmaceutically acceptable topical carrier further comprises a sufficient amount of a panthenol selected from D-panthenol and DL-panthenol to promote penetration of one or more of the antioxidants and compounds which inhibit at least one of cell differentiation and cell proliferation into the skin.

19. (Original) A method as claimed in claim 16, wherein the pharmaceutically acceptable topical carrier comprises hydroxymethyl cellulose.

20. (Original) A method as claimed in claim 16, wherein the pharmaceutically acceptable topical carrier comprises an acrylic copolymer dissolved in polyethylene glycol.

21-37. (Canceled)

38. (Previously presented) A method as claimed in claim 1, wherein the composition comprises vitamin D₃.

39. (Previously presented) A method as claimed in claim 38, wherein the composition comprises chlorophyllin.

40. (Previously presented) A method as claimed in claim 1, wherein the composition comprises α -lipoic acid.

41. (Previously presented) A method as claimed in claim 39, wherein the composition comprises α -lipoic acid.

42. (Canceled)

43. (Previously presented) A method as claimed in claim 1, wherein the radiation injury is radiation dermatitis.

44. (Previously presented) A method as claimed in claim 1, wherein the radiation injury is vomiting.

45. (Previously presented) method as claimed in claim 1, wherein the radiation injury is bone marrow damage.

46. (Previously presented) A method as claimed in claim 1, wherein the radiation injury is intestinal damage.